A New Combination in *Glossopetalon* (Crossosomataceae)

George Yatskievych
Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166, U.S.A.
george.yatskievych@mobot.org

Abstract. As part of research leading to a treatment of the family Crossosomataceae for the Flora of North America Project, the new combination *Glossopetalon spinescens* (A. Gray) Greene var. *planitierum* (Ensign) Yatskievych is proposed to account for plants in the *G. spinescens* complex endemic to a small portion of the United States in the Texas Panhandle and adjacent Colorado, New Mexico, and Oklahoma. The change in status from species to variety is justified in light of the subtle patterns of morphological variation within the complex as a whole, which in recent decades has resulted in the reclassification of several other former species of *Glossopetalon* A. Gray as varieties of *G. spinescens*.

Key words: Central United States, Crossosomataceae, Flora of North America, *Glossopetalon*.

Glossopetalon A. Gray is a genus of shrubby plants inhabiting dry sites in the western half of the United States and portions of northern and eastern Mexico. The genus has endured taxonomic and nomenclatural controversies at the generic and specific levels and also concerning its familial affiliation. Classification of *Glossopetalon* in the Crossosomataceae (rather than the Celastraceae) has now been well documented, based on analyses of morphology (Thorne & Scogin, 1978), wood anatomy (DeBuhr, 1978), phytochemistry (Tatsuno & Scogin, 1978), and *rbcL* sequence data (Sosa & Chase, 2003). Nomenclatural issues surrounding the availability and priority of *Glossopetalon* (vs. *Forsellesia* Greene) also have been resolved (St. John, 1942; Holmgren, 1988, 1997).

However, species limits within *Glossopetalon* are still not well understood. The only comprehensive treatment of the genus to date was that of Ensign (1942), who accepted eight species (as *Forsellesia*). Subsequently, some botanists working with regional floras have suggested that the lack of discrete morphological characters distinguishing various taxa may support possible future mergings, including the works of Lundell (1969) on the Texas flora and Welsh et al. (1987) on the Utah flora.

The most insightful morphological analysis thus far has been that of Holmgren (1988, 1997) involving the taxa of the intermountain region of the western United States, who concluded that some of the characters used in the existing literature are somewhat overlapping between taxa and that *Glossopetalon* should be reduced from eight to four or five species. Holmgren noted the variability and intergradation among populations for characters such as leaf size and degree of stipule development and adnation; he reduced three of Ensign's (1942) species to varieties or synonyms within *G. spinescens* A. Gray, also naming an additional new variety. Some botanists, for example Shevock (1993), even have questioned whether infraspecific taxa should be recognized at all within *G. spinescens*.

Holmgren (1988) noted two additional members of the *Glossopetalon spinescens* complex that he did not examine because they occur only outside of the intermountain region. Ensign (1942) treated one of these as *Forsellesia spinescens* (A. Gray) Greene var. *mexicana* Ensign (*G. spinescens* var. *mexicanum* (Ensign) H. St. John), but she knew this plant only from a single herbarium specimen from Coahuila, Mexico. After examining an isotype (Mexico, Coahuila, Sierra de Pata Galana, Feb. 1905, *Purpus 1120*, MO) and a second more recent collection (Mexico, Coahuila, 3 km SW of Fraile, 11 July 1941, *Stanford, Retherford & Northcraft 316*, MO), I am inclined to agree with the varietal designation for this taxon within *G. spinescens*. With its small leaves and relatively well-developed stipules, the variety *mexicanum* resembles *G. spinescens* var. *microphyllum* N. H. Holmgren, which is endemic to portions of Arizona, Nevada, and Utah in the Great Basin region. The latter taxon appears to differ from the one in Mexico mainly in its stem coloration, which tends to change from green to orangish brown on second-year branches, and in its somewhat shorter (25–60 cm) habit.

Ensign (1942) described *Forsellesia planitierum* to circumscribe a small group of populations endemic to the southwestern portion of the American Great Plains in the Texas Panhandle and a few adjacent counties in Colorado, New Mexico, and Oklahoma. She aligned her new species with *F. nevadensis* (A. Gray) Greene (*Glossopetalon spinescens* var. *aridum* M. E. Jones) and *F. spinescens* (*G. spinescens* var. *spinescens*). From these, she distinguished it by its thinner, grayer

branches, somewhat less spinescent branch tips, and its slightly broader petals.

In compiling an account of *Glossopetalon* for an upcoming volume of the *Flora of North America* series, it seems most reasonable to follow Holmgren's (1988, 1997) treatment of the *G. spinescens* complex as a series of populations in which isolated populations with apparent lack of gene flow have contributed to subtle patterns of morphological divergence best recognized taxonomically at the varietal level. A key to these varieties will be included in the forthcoming account in the *Flora of North America* series (Mason & Yatskievych, in prep.). Combinations have been published to account for all of the taxa in the complex that formerly were recognized as species by Ensign (1942) except for the one in the southwestern Great Plains. This is published here, as follows:

Glossopetalon spinescens var. **planitierum** (Ensign) Yatskievych, comb. et stat. nov. Basionym: *Forsellesia planitierum* Ensign, Amer. Midl. Naturalist 27: 509. 1942. *Glossopetalon planitierum* (Ensign) H. St. John, Proc. Biol. Soc. Washington 55: 112. 1942. TYPE: U.S.A. Oklahoma: Cimarron Co., high up on side of Black Mesa, near Kenton, 14 May 1913, *G. W. Stevens 463* (holotype, GH; isotypes, A, DS, US).

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